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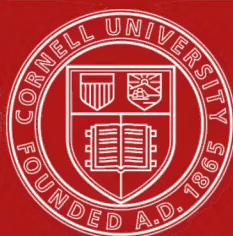
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OFFICE OF
STATE ENTOMOLOGIST
ST. ANTHONY PARK, MINN.

CIRCULAR No. 35
JAN. 15, 1916

**FURTHER OBSERVATIONS ON MINNESOTA
BIRDS: THEIR ECONOMIC RELATIONS
TO THE AGRICULTURIST.**



LETTER OF TRANSMITTAL.

Minnesota Experiment Station,
St. Anthony Park,
January 12, 1916.

His Excellency,

J. A. A. BURNQUIST.

Dear Sir: I have the honor to transmit herewith the manuscript entitled "Further Observations on Minnesota Birds: Their Economic Relations to the Agriculturist," and respectfully recommend its publication as Circular No. 35, of the State Entomologist's Department, which, by law, is under your supervision.

Respectfully yours,

F. L. WASHBURN,
State Entomologist.

Approved:

J. A. A. BURNQUIST,
Governor of Minnesota.

**FURTHER OBSERVATIONS ON MINNESOTA BIRDS;
THEIR ECONOMIC RELATIONS TO
THE AGRICULTURIST.**

F. L. WASHBURN.

The increasing interest in our birds prompts the Entomologist to add to the information published with colored plates in Circular 32, from this office, by issuing the present leaflet. It is manifestly out of the question to discuss all of our bird residents or visitors, or even to list and figure them in a circular. It has been our aim, therefore, rather, to describe, briefly, different types representing certain groups common in Minnesota. There has been a great demand for Circular 32 on the part of schools and it is hoped that these brief accounts of Minnesota bird life may also be of service.

We are particularly fortunate, through the kindness of the artist, Louis Agassiz Fuertes, of Mabel Osgood Wright, the living author, and the Macmillan Company, publishers of "Citizen Bird," to be able to present here a few of the excellent and accurate illustrations with which that publication is adorned. It is with the greatest pleasure that we acknowledge our appreciation of the courtesy extended by the above.

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THE WOOD THRUSH AND WILSON THRUSH.



The distinct, sharply-outlined, large, round, black spots on the white breast and under parts of the Wood Thrush, together with



Wilson Thrush

its larger size, will at once distinguish it from the following species—the Wilson Thrush or Veery, with which it vies in the matter of song. In the latter species, the white breast is more or less tinged with cream and dotted with small, somewhat indistinct brownish, wedge-shaped spots. Its upper parts are brownish but not as bright as in the Wood Thrush.

The first-named bird is $8\frac{1}{4}$ inches long; the latter (Veery) a little over 7 inches. Both lay greenish-blue eggs in a coarse nest modelled somewhat after the nest of the robin, but the nest of the Veery is on or close to the ground. The beautiful song of both of these birds, coming from the dense woods, if once heard, is never forgotten and they are both important insect-eaters; in fact, the entire thrush family, tho occasional members may be attracted to berries and fruit, notably in the case of the robin, must be credited with being benefactors of the farmer and fruit raiser. Forbes, after a somewhat exhaustive examination of their food habits, states that 61% of the food of thrushes consists of insects.

THE BROWN THRUSH OR BROWN THRASHER.



The excellent illustration here given is sufficient to enable us to recognize this very common bird of our thickets and fields. Rufous brown above, with black spots on a white ground below, its

colors and conspicuously long tail make it a notable object when it seeks a prominent position on a lofty branch, preparatory to singing. Its song, while striking, will not compare, we believe, with those of the two preceding nor with that of the cat bird. One of its chief charms, perhaps, lies in the fact that it is an accompaniment of the welcome spring weather. We have been so struck by the little rhyme credited to "Olive" in "Citizen Bird," which certainly is very descriptive of its habits and song, that we venture to repeat it here:

"My creamy breast is speckled
(Perhaps you'd call it freckled)
Black and brown.

"My pliant russet tail
Beats like a frantic flail,
Up and down.

"In the top branch of a tree
You may chance to glance at me,
When I sing.

"But I'm very, very shy,
When I silently float by,
On the wing.

"Whew there! Hi there! Such a clatter.
What's the matter—what's the matter?
Really, really?

"Digging, delving, raking, sowing,
Corn is sprouting, corn is growing.
Plant it, plant it!
Gather it, gather it!
Thresh it, thresh it!
Hide it, hide it, do!
(I see it—and you.)

Oh! I'm that famous scratcher,
H-a-r-p-o-r-h-y-n-c-h-u-s r-u-f-u-s—Thrasher
Cloaked in brown."

While the brown thrush may take a little fruit or grain, it is a good insect-eater and, as a ground feeder, scratching amongst fallen leaves, it picks up many injurious insects, and it must be admitted, some useful forms as well, the ground beetles, for example.

THE CAT BIRD.



Discussed in Circular 32 of this Department, but the writer has been so forcibly reminded of the beautiful song of this bird by the extremely natural appearance of the drawing, that he is led to include it here as a plea for the bird, upon the ground of its qualities as a songster.

THE YELLOW-BELLIED WOODPECKER OR SAPSUCKER.

The illustration will prove so helpful in enabling one to distinguish between this injurious form and other woodpeckers which are useful that we add these few words, although the species is briefly discussed in Circular 32. In striking contrast to other birds whose tongues are extensile for extracting borers from infested trees, the tongue of this species has a somewhat "brush-like" tip. It cannot be protruded to any extent, and is thus modified for an entirely different diet from that of other members of the same family. That it seriously injures birches, maples, mountain ash, apple, evergreen, and other trees by girdling them with holes in its seeking for sap and cambium goes without saying. It may and probably does consume a few insects which are attracted to the bleeding holes, but not in sufficient numbers or of

the right kind to compensate for the injury inflicted upon the trees. The bird is about $8\frac{1}{2}$ inches long. The adult male has crown and throat red, breast black, and belly a shade of yellow. The female has no red on throat and the red color of the crown is sometimes replaced by black. The downy woodpecker, which is one of our most useful birds, is under 7 inches in length and has a scarlet band on the back of the head in the male—not on the crown. On account of its small size and difference of coloration, it need not be confused with the species under discussion.

THE BELTED KINGFISHER.



The above virile picture gives an excellent idea of the appearance of this vivacious, noisy, and, it must be confessed, at times injurious bird. Naturally a lover of good-bordered streams and ponds, its noisy rattle is a fit accompaniment to the sound of running water and it is here that it takes frequent toll of fish which might otherwise have lived to fill the angler's creel. Fish in ponds and streams, therefore, suffer as a result of its rapacious appetite, but

its depredations become of marked importance when it habitually takes its food from ponds or streams of those who raise trout on a commercial scale. Frequently, the shot gun is used by the fish-breeder in self-defense; or taking advantage of the bird's habit of frequenting a perch over the water, whence it can see its prey below the surface, a steel trap is placed on the top of an upright pole planted in the pond and the marauder captured therein. Its white eggs are placed at the end of a long burrow in some bank near the water.

THE AMERICAN REDSTART.



Fuertes' fine drawing illustrates the male (1) and female (2) of this beautiful bird. One of a large group of wood-warblers, examples of which (Blackburnian, Maryland yellow-throat, Chestnut-sided, and Yellow-rumped) were shown in color in Circular 32. The male is striking, not only on account of his brilliant coloring, but also on account of his conspicuousness, since he is extremely active and this activity coupled with the above-mentioned brilliancy of coloring, makes him an object to catch the eye of even an indifferent observer. As if conscious of his beauty

(breast, head, and back a deep, lustrous black; long wing-feathers at base a rich, salmon; about half of the outer tail feathers, sides of breast, and body beneath wings deep salmon) he is continually spreading and flirting his tail, extending his wings, and making short flights from the trees seeking insects, much after the manner of our common fly-catchers. The female is much duller-colored, greenish-gray on head and back and yellowish where the male is salmon.

THE GREAT NORTHERN SHRIKE; BUTCHER BIRD.



A misconception regarding this bird prevails among many, a mistake which is encouraged by its name and perhaps added to, unfortunately, by the illustrations frequently seen, showing the bird with a captured sparrow. It is true, however, that he kills sparrows and other small birds, a fact evidently fully appreciated by his intended victims, since a panic among them is caused by his appearance, but he atones for this by killing and devouring field mice, shrews, and injurious insects. It is to his credit, also, that he is a persistent enemy of the English sparrow—a bird responsible for many ills and now recognized as one means of dispersal of the much-dreaded San Jose scale. The great northern shrike is common in our fields until late fall, sometimes as late as December in the latitude of Minneapolis, and even later in the south-

ern part of the state, and recognized by his peculiar flight, close to the ground, by his size and coloration. He is about $10\frac{1}{4}$ inches long, black, gray, and white. At times, he is something of a songster. Amongst injurious insects captured, we might mention grasshoppers and various caterpillars.

AMERICAN CROSSBILL.



A frequent visitor from the North in the fall and during the winter. More common in the timber and wooded country than in open sections, though occasionally seen on some high tree in the middle of a large city. Wherever observed in this latitude, they are always tame and easily approached. The writer has found them in July in the upper Red River Valley, feeding upon the insect contents of poplar galls. These were probably young birds and their occurrence here at that date would indicate the birds breeding at no very great distance.

THE BOBOLINK.



This dandy amongst birds—a favorite of bird lovers and subject of many a song and poem—is a common and welcome summer resident here, filling the fields with drunken melody, while his more modestly-colored mate is sitting quietly on her nest, well hidden in grass or clover. So familiar to all is this songster that with the above excellent illustration before us, no verbal description is necessary.

The beauty and song of the male bird are but transient qualities, for after the breeding season, he loses his fine clothes, becomes dull olive-colored, streaked with black, like the female and young, and, in the fall, flocks southward to wild rice marshes and cultivated rice fields, wintering in South America. At night one frequently realizes flocks of these birds are passing, by hearing their metallic "*Chink*" in the darkened sky above. As "*reed bird*" and "*rice bird*," they find their way into the markets of the East and South, fattened by voracious feeding in the rice fields. While with us in the North, they eat large numbers of injurious insects.

THE RED-WINGED BLACKBIRD.



However injurious the group of blackbirds become in late summer and fall, in the spring and early summer they almost or quite pay for their depredations by consuming large numbers of injurious insects. The Red-wing is a welcome arrival in the early spring. Its really melodious note at that time is tuneful comfort to bird lovers, after a long winter devoid of feathered singers. At that time, the position taken by the bird in uttering its characteristic note or notes discloses to advantage its scarlet shoulders well set off by glossy black of wings, body, and tail. The grayish-brown female, streaked with black, we may not notice, but the male compels attention.

The Department of Agriculture has made an exhaustive study of this bird's food habits and finds about $\frac{7}{8}$ of its diet consists of harmful insects and weed seeds. Locally when in large flocks, as above intimated, it—with others of its tribe—may be very harmful and a resort, on the part of the farmer, to extreme measures is justified.

THE WHIPPOORWILL AND NIGHT HAWK.



These two birds, sometimes confused by the uninitiated, yet perfectly distinct species, are both insect-eaters and one of them—the Whip-poor-will—not often seen and not very well known. It is a bird of the woods, unless disturbed flying only by night, characterized by its peculiar note, oft-repeated: “Whip-poor-will!” “Whip-poor-will!” “Whip-poor-will!” with a “cluck” or “chuck” before each call, audible to one close at hand. This song, quite forceful and penetrating, is heard in the first part of the night and just before dawn. In coloration, the bird harmonizes closely with the wood colors. When flushed, it disappears with absolutely noiseless flight.

The Night Hawk, on the other hand, is markedly a bird of the open, frequently in flight in the afternoon and early in the evening, high in the air, uttering at frequent intervals his rather harsh cry and occasionally, on half-closed wings, darting down to the earth with a booming sound, made, it is claimed, by the rush of air through his primary wing feathers. The two eggs of the Night Hawk are laid on the ground or in the fields, or even on a flat rock, with no semblance of a nest; occasionally, they are found on flat roofs of buildings in cities. The Whip-poorwill's eggs, also two in number, are laid on the ground or on a log or stump in the woods, likewise protected by no nest. The coloring and markings of the two birds also serve to distinguish them. The Whip-poorwill's colors partake of the browns while the Night Hawk is grayish. The tail of the former has the three outer feathers white for about $\frac{2}{3}$ their length. Further, the end of the tail is rounding.



Night Hawk

The latter-named bird has a conspicuous white patch on each wing; its tail is forked. The Whippoorwill feeds largely on moths and beetles; the Night Hawk on May flies, gnats, dragon flies, grasshoppers, etc.

THE QUAIL.



The Virginia Quail or Bob White is holding its own fairly well in Minnesota in spite of our severe winters, pushing its way

farther north when conditions are favorable. This bird is such a good friend of the agriculturist that it deserves protection although its fine qualities as a table bird make it an object of pursuit on the part of hunters. Potato bugs and even chinch bugs have been found in its crop and grasshoppers as well as many other varieties of injurious insects compose a large proportion of its bill of fare.

THE AMERICAN WOODCOCK.



A somewhat rare bird in Minnesota, frequenting the low, wooded, water-courses and generally resorting to the higher lands only during the night. This beautiful game bird is pre-eminently a night-flier and a night-feeder. Its large eyes, placed well toward the top of its head, are not only enabled to gain impressions from above, when the bird's soft beak is buried in the mud, but also are in a position to receive all available light. When flushed, the bird rises softly, directly upward until clear of the brush and then pauses an instant before starting away from the intruder. Their four buff-colored eggs spotted and blotched with brown, are laid on leaves on the ground in an excuse for a nest. This bird has no economic bearing upon agriculture. It is protected in Minnesota until 1918.

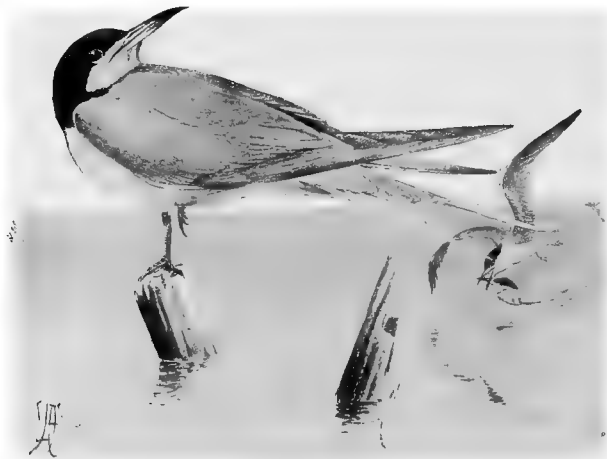
THE HERRING GULL AND COMMON TERN.



The gull family was mentioned in Circular 32 as a group beneficial to farmers living in a prairie country. At the time, we referred particularly to the Black Tern so abundant in many of our prairie sloughs, as a catcher of grasshoppers and, while no illustration of this bird is available, we are pleased to be able to present an excellent drawing of the Common Tern in this publication which will serve to illustrate the group.

The Herring Gull—a good scavenger upon the shore of lake or ocean, typifies the larger members of the family and the species itself, while not as abundant perhaps as other gulls which breed in some of our lakes—is, nevertheless, a Minnesota summer resident, arriving in the southern part of the state early in April, shortly after that working its way north, where some at least nest in our larger lakes, notably Lake Mille Lacs. I have observed them at Devils Lake, Otter Tail County, in October and also find the following observations amongst my notes taken some years ago: “At Lake Mille Lacs, after the wind has been blowing from the East a day or more, these gulls and the two following species, namely *L. delewarensis* and *L. philadelphia*, are plenty along the west shore, flying up and down the beach and occasionally alighting to pick up small lacustrine mollusks washed ashore with the weed matter. About two miles from the south shore of the lake lie three barren, rocky islands, which are frequented by the gulls in the breeding season. The larger of the three, called Stone Island,—or Spirit Island by the Indians—con-

taining about three-quarters of an acre and with its top about 20 feet above the surface of the water, affords on its rocky surface a nesting place for hundreds of gulls."



The Common Tern.

Stomachs of the Herring Gull are found to contain grasshoppers, fish, mollusks, and, in one instance, the remains of a marsh hare, possibly consumed as carrion. Professor Aughey reported finding in the stomachs of each of four Black Terns from 47 to 84 grasshoppers or locusts, and in two stomachs examined, from 28 to 59 other insects.

THE MOURNING DOVE.

Discussed quite fully in Circular 32, but at the time, we were not able to present an illustration. The drawing is included here for comparison with that of the Passenger Pigeon or Wild Pigeon with which the species is sometimes confused. This dove was formerly included amongst the Minnesota game birds, with a regular open season, but it is now protected until 1918. In some localities in Minnesota referred to as "Ground Dove."



THE WILD PIGEON.



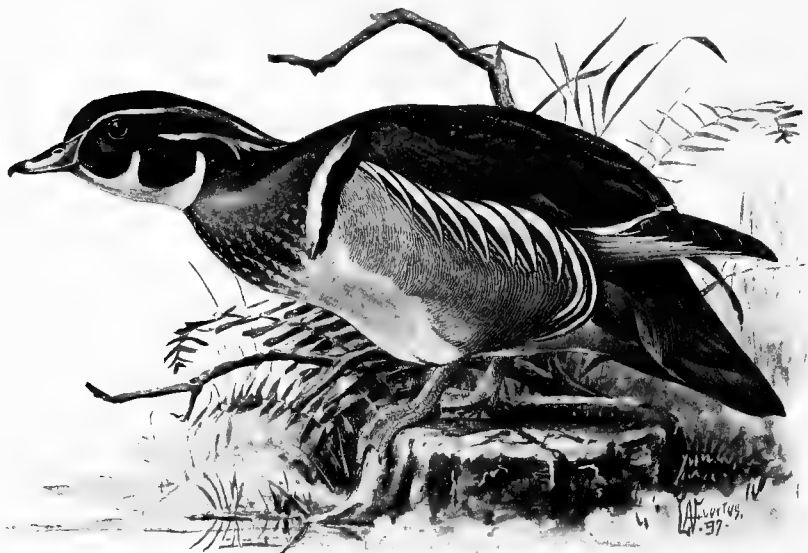
A vanished bird. Several reports from various localities in Minnesota have reached the University of the occurrence of this beautiful bird so common years ago, within the confines of the state, but these rumors appear to have arisen either from confusing the Mourning Dove with this species, or to have been fakes, pure and simple. So far, the reward of \$1,000 for a pair of these birds nesting has not been claimed. The writer has been, in the past, familiar with the appearance of the Passenger Pigeon at the time when it was extremely abundant in Minnesota and must confess to having been startled a few years ago in traveling by train from Crookston to Bemidji, at catching a momentary glimpse from the car window of two birds in flight amongst the trees, wonderfully resembling in size, color, and shape, the Passenger Pigeon of yesterday. No opportunity was afforded, however, to prove this and he dismissed the idea as absurd.* The

*In this connection it may be noted that Francis L. Palmer of Stillwater, Minn., a student of birds, claims quite emphatically to have observed one of these birds on May 31, 1915, near the above named town, which is in the southeastern part of the state. His observations were published in "Bird Lore" for July-August, 1915, page 289.

glory of discovering the existence (if it does exist) of this former summer resident still remains for some aspiring ornithologist.

There is no need of confusing these two birds. The wild pigeon is $16\frac{1}{4}$ inches long; the ground dove only $11\frac{3}{4}$ inches, approximately. The upper part of the former are dove-colored or bluish-slate with metallic reflections on the sides of the neck of the male, while the upper parts of the dove are grayish-brown. The nests of both consist of small twigs loosely put together and containing in each case two white eggs.

THE WOOD DUCK.



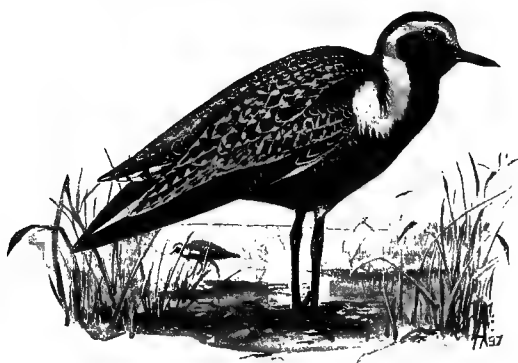
A bird like the woodcock and some others, rapidly growing more scarce in Minnesota and included here with the Golden Plover as representing our "vanishing birds." Strikingly tropical-looking is the male bird. In the above excellent illustration imagine the sides of the face and soft crested crown, green with purplish reflections, contrasting sharply with the white of the upper throat, the breast a rich, purplish chestnut, finely spotted with white; sides yellowish, delicately pencilled with black, with ends of flank feathers sharply barred with black and white. Back blackish or brownish, with green reflections, and long wing-feathers, bluish with green reflections. The eye (iris) bright red. A veritable prince amongst ducks, capable of domestication and

worthy of most careful protection. What fisherman, wading a wooded stream, or Nature-lover idling on the bank of a secluded pond, has not been delighted by the flashing colors of these beautiful birds as they leave the water, startled at the approach of an alien, or entranced as they disport themselves in sylvan pool, quite unconscious of the admiring glances they invite!

Dr. P. L. Hatch, in his notes on the birds of Minnesota, 1892. voicing his enthusiasm over this duck, breaks into song as follows: "The most truthful and esthetic description of the mature male could reach no nearer the limning reality than the coldest prose could paint the rainbow. Science, after all her most imposing assumptions, would sit down and weep before the task in black despair. The impotence of all attempts has smirched the skirts of hope by what has been essayed in its systematic, as well as its vernacular nomenclature. *Aix sponsa*! Shades of Linnaeus, weep cold, clammy tears for thine irremedial dereliction! Wood Duck! Summer Duck!"

Unlike the majority of ducks, these birds breed in hollow trees overhanging the water. They are typically North American, ranging from Florida to Hudson Bay, but wintering far to the south of our most southern borders. Protected in Minnesota until 1918.

THE GOLDEN PLOVER.



A bird also uncommon, in that it is here irregularly during the migrations remaining with us only a short time, and now, we believe, rapidly disappearing. The illustration is given here as representing the type, one of which—the Ring-Neck—was dis-

cussed in Circular 32. While with us, the food of the Golden Plover consists chiefly of grasshoppers and other insects. Together with the Upland Plover or Field Plover, another vanishing bird, it is protected in Minnesota until 1918.

THE BLUE HERON.



Another of our wading birds, wrongly referred to frequently as "Crane." The cranes, be it said, are rather birds of the plains and prairies—not of wooded sections, where we find these fishermen abundantly represented. Its food consists of frogs and fish, but grasshoppers and field mice are not scorned. Like the kingfisher, it may become destructive when frequenting the ponds of the fish-breeder.

THE SNOWY OWL AND GREAT HORNED OWL.



As supplementing a plea made in Circular 32, in behalf of birds of prey as a class, we introduce here figures and brief notes of two of our owls not mentioned in the earlier publication. The first-named, to be sure, is not a common bird in Minnesota. When seen, it is generally in the winter season, at which time we have occasionally observed it in the bare fields. Our field notes, however, show that this bird was met with occasionally in Otter Tail County in October and November, some years ago. It is, however, distinctly a boreal bird, pushing its migrations southerly only in its search for food.

The Great Horned Owl, however, arriving here sometimes as early as February is a common bird within our state borders.

Rabbits, gophers, muskrats, field mice, and other night-prowling animals represent a large share of the diet of this owl; poultry, too, if farmers allow their turkeys and chickens to roost in tops of trees, on sheds, or on exposed farm wagons. Even skunks (note the illustration) are highly prized by them for food; in fact,



Great Horned Owl

when captured, they are frequently strongly scented with skunk odor. With the exception of the skunk, which is ordinarily a useful citizen, the other mammals mentioned must be regarded as injurious—most of them decidedly so; hence this owl is, to a large degree, a benefactor.

